Recently you received 95-DMR-ERM-0004 to RFP/ERM-94-00019. A printing error was discovered with the replacement pages of sections 6 through 10. Please insert the enclosed corrected pages into your manual RFP/ERM-94-00019.

6.0 PERSONNEL AND AIR MONITORING

6.1 INTRODUCTION

Ambient air monitoring and personal sampling will be conducted during work under this HSP. Appendix A provides a list of contaminants, monitoring methods, PPE, and action levels by individual IHSS.

A discussion of instrument calibration, ambient air monitoring, and personal sampling for nonradioactive contaminants is provided in Sections 6.2 and 6.3. Radiation monitoring requirements are given in Section 6.4.

6.2 INSTRUMENT CALIBRATIONS

All instrumentation used to monitor employees' nonradioactive exposure will be calibrated and maintained as directed by the instrument manufacturer. The following guidelines will be used:

1. Instruments will be calibrated before and after use or maintenance in accordance with the manufacturer's instructions as discussed in Jacobs' SOP 6.0, Operation, Calibration, and Maintenance of Field Monitoring Equipment Without Specific SOPs. Calibration data will be recorded in an instrumentation calibration logbook. Pertinent information to be recorded includes type of instrument, manufacturer and serial number, calibration standard used and lot number or other unique identifier, initial readings, adjustments made, and final reading. A copy of Jacobs' instrument calibration form is included in Appendix C.

2. Calibration standards will be traceable to a National Institute of Standards and Technology primary standard or be a recognized primary standard. Copies of calibration standard certificates will be maintained at the project site.

6.3 AMBIENT AIR AND PERSONAL MONITORING

Ambient air monitoring and personal sampling will be conducted during activities covered by the HSP. This monitoring will be used to document employee exposure and provide a reference for future activities. All monitoring will be in the breathing zone unless otherwise specified in Appendix A.

Ambient Monitoring Methods. Ambient air monitoring for nonradioactive contaminants will be conducted for activities covered by this plan using calorimetric tubes, a photoionization detector (PID), and a real-time dust monitor.

A PID using an 11.7 electron volt (eV) lamp in the total response mode will be used to monitor sites as presented in Appendix A. Upon arrival at a work site, the PID will be zeroed relative to ultra zero air. After the PID has been zeroed, a background reading will be taken upwind of the work site. Additional measurements will be taken at the work site with each soil or soil-gas sample collected. If an action level, as defined in Appendix A, is reached, readings will be monitored continuously. Background readings will be repeated whenever weather or wind direction changes. A sustained reading in the breathing zone is defined here as a reading measured using the PID where air is being inhaled over a five-minute interval.

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Colorimetric tubes will be used at each IHSS, as outlined in Appendix A, after an action level is reached with real-time instrumentation or if free liquids are observed. When colorimetric tubes are required, an upwind sample will be collected for each contaminant and be recorded as the background. Additional measurements will be obtained at the work site with each soil sample collected. If an action level is reached, additional measurements will be taken whenever site conditions change. Background measurements will be repeated if weather conditions or wind direction change. If no compounds are detected by photoionization, and personal sampling results provide no indication of overexposure, colorimetric tubes will not be used.

Real-time dust monitoring will be conducted at all work sites to determine background particulate levels and monitor particulate resuspension as work is conducted. Readings will be measured at the worker breathing zone. Many particulate contaminants at individual IHSSs are designated to be monitored by a real-time aerosol monitor (MIE Mini-ram) in Appendix A. Action levels for dust monitoring are based on a nuisance dust standard of 10 mg/m^3. For Level D activities, concentrations of 25 percent of the standard (2.5 mg/m^3) are allowed, up to 50 percent (less than 5 mg/m^3) for Level C, and for concentrations in excess of 50 percent (>5 mg/m^3) Level B will be used. Action levels are based on the average concentration obtained during a five-minute sampling period. Upon arrival at a site, a background reading will be obtained from an upwind location. Additional measurements will be collected upon arrival at the work site and with each sample taken during sampling activities. If an action level is reached, readings will be measured continuously.

~~The fact that contaminants are listed for monitoring is not intended to reflect and should not be construed to reflect a readout of actual exposure for a given contaminant. It is only an indication of particulate suspension. Employee exposure will be determined through integrated sampling, and any adjustments to action levels will be based on data obtained from analysis of these samples. This approach is necessary because no data are available on soil concentrations of contaminants within the areas to be investigated. Where elevated levels of radioactivity have been noted in historical reviews, area sampling will be conducted to determine current exposure before activities begin. Appendix A notes any instance where this occurs.~~

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Action Levels for Suspect Contaminants. Action levels for nonradioactive contaminants are established by individual IHSS and documented in Appendix A. In setting the levels for which contaminants are known and for which specific monitoring methods are available, the PEL or ACGIH threshold limit value (TLV) for a contaminant was used as the action level for Level C protection. Maximum use concentrations for Level C work were determined by multiplying the action level by a respiratory protection factor. A conservative factor of 10 was used for full-face respirators. Additional considerations include availability and service limits of air-purifying

cartridges for a given contaminant. Where cartridges are unavailable or contaminant levels exceed service limits, demobilization or transition from Level D modified to Level B will be required. When action levels are reached which, according to Appendix A, require "evacuation and reevaluation," site workers must move to an area where direct reading instrumentation shows airborne concentrations are below the action levels of concern. The HSS/HSST must contact the Health & Safety Coordinator to determine further action.

Documentation. All monitoring results and other pertinent actions will be recorded in the Health and Safety Officer's field logbook. In addition, each instrument's name, model, serial number, and site conditions will be recorded once before the first entry of monitoring results.

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Personal Sampling. ~~Personal sampling will be conducted to document personnel exposure during work activities and provide a characterization of exposure for activities conducted under the plan. Because no data were available to determine the ambient air concentrations of suspect contaminants during the generation of this HSP, an initial round of five samples will be collected for the contaminants of concern at each IHSS with each medial listed in Appendix A.~~ Personal sampling will be conducted only when Level C action levels are reached with direct reading instruments or when otherwise noted in Appendix A. Sampling results will be used to determine personnel exposure and revise monitoring requirements. Where mixtures of chemicals are detected, the computational formula for mixed contaminants will be used to assess exposure. Where results indicate no detected overexposure, sampling will be discontinued for that contaminant. An action level of 50 percent of the TWA for single contaminants or mixtures will be used for the determination. Modifications to sampling requirements for detected contaminants will be based on the documented exposure level on a case-by-case basis. Additional information from soil sampling results may also be considered in the modification of sampling requirements.

Sampling will be conducted with personal air pumps using solid sorbet or filtration media and NIOSH- or OSHA-approved analytical methods. Analysis will be completed by an American Industrial Hygiene Association (AIHA) accredited laboratory. Appendix A provides a summary of methods to be used at each IHSS. Chain-of-custody seals and forms will be generated for each sample. Field blanks will also be prepared and submitted concurrently with exposed media.

minute (dpm)/100 cm^2 alpha (detected by Ludlum 12-1A) or 100 cpm/beta gamma above background (detected by Ludlum 31/12) will be considered contaminated.

In the event that personnel contamination is detected, field decontamination will be attempted as outlined in Section 9.1, Personnel Decontamination. If contamination is detected, Jacobs' personnel will maintain the site zone boundaries and notify the ERHSO, EG&G Radiological Engineering, and EG&G Contractor's Technical Representative. All radiological occurrences will be documented in accordance with EMRG 10.1, Radiological Deficiency Reporting Program.

6.4.4 Personal Sampling for Airborne Activity

Personal sampling will only be performed when directed to by EG&G Radiological Engineering. Representative personal sampling from each field team working in radiologically contaminated areas (greater than or equal to 25 percent of personnel) will be conducted for airborne alpha radioactivity using Jacobs' Radiological Operations Procedure (ROP) 10.02, Personal Air Particulate Sampling. A type A-E, glass fiber filter will be used to collect airborne particulates. At the end of the shift, the filter will be removed and counted in accordance with Jacobs ROP 10.03, Performance Check and Operation of Alpha Smear/Filter Counting Instrumentation. The resulting data will be compared with the derived air concentration that is the most conservative for the contaminants suspected of being present to gauge employee exposure. Derived air concentrations for suspect contaminants are given in DOE 5480.11. Sampling results equal to or greater than 10 percent of the Derived Air Concentration (DAC) will be reported to the ERHSO. After the first five samples are analyzed, a review of the data will be conducted to make a determination whether to continue to monitor for airborne alpha radioactivity. If the levels are below the guidelines stated in Jacobs' ROP 10.02, the monitoring will be discontinued.

6.4.5 External Dosimetry

Jacobs' employees and subcontractors will participate in the EG&G Rocky Flats External Dosimetry Program as outlined in HSP 18.07, External Radiation Dosimetry. Jacobs' personnel will wear EG&G-supplied thermoluminescent dosimeters while in the field to assess beta, gamma, neutron, and X-ray exposure while working at Rocky Flats. When not in use, they will be kept on a board within the support trailers. Dosimeters will be exchanged quarterly.

6.4.6 Ambient Air Monitoring for Radionuclides

Ambient air sampling for airborne alpha radioactivity will only be performed when directed to by EG&G Radiological Engineering, or if dust action levels are exceeded in an RCA. Ambient air sampling for airborne alpha radioactivity will be conducted when required with high-volume air samplers using Jacobs' ROP 10.01, High Volume Air Particulate Sampling. Samples will be counted in accordance with Jacobs' ROP 10.03. Grab samples will be collected in the immediate vicinity of work being performed during each shift to determine 1) whether the area is an airborne radioactivity area requiring additional work controls and 2) if personal breathing-zone air sampling is necessary to assess the worker's intake of airborne radioactive materials. In accordance with the protocol for personal sampling in Section 6.4.4, high-volume sample results will be compared with the most conservative derived air concentrations given in DOE 5480.11, and results greater than 10 percent DAC will be reported to the ERHSO. Depending on adjacent IHSS logistics, radionuclide air monitoring locations may be chosen to represent more than one IHSS.

6.4.7 Surface Contamination Monitoring of Work Areas

Prework area monitoring will be accomplished in accordance with EG&G EMD FO.16 by making direct surface soil measurements with a Bicron Analyst FIDLER. Measurements of 1,500 to 1,700 counts per minute (cpm) or less generally indicate that only background radioactivity is present. Where readings that indicate the potential exists for radiation exposure

- limiting access at control points to authorized personnel;

- assigning the responsibility for enforcing exit and entry requirements; and

- limiting the work area to essential personnel and giving the field team leader the authority to approve all visitors to the site.

7.1.4 Site Logs and Records

The site entry log will document which personnel are onsite and will accurately reflect site staffing at all times. Signing in when entering the site and signing out when leaving the site will be strictly enforced. Other records maintained onsite will include training certification, accident records, and equipment calibration records.

7.1.5 Site Visitors

Access to the site by visitors not directly involved with routine integrated operations will be restricted as follows:

- All site visitors must sign in at a site security station located at the site boundary.

- All site visitors must be cleared at the site security station by the Site Manager or his/her designee before obtaining access to the Support Zone.

- Site visitors entering the Exclusion Zone will be strictly limited. The Site Manager and HSO/HSS must approve entry, and the visitor must provide medical, training, and fit test documentation.

- All visitors will receive a site-specific safety briefing and will be escorted at all times. Visitors in areas requiring Level A, B or C PPE must have the equivalent training and PPE as the onsite worker to enter.

- Visitors in area requiring Level D PPE must have Level D PPE, receive a site specific safety briefing and be escorted at all time.

- All site visitor access must be clearly documented, and visitors must comply with all provisions of the site HSP.

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If visitor does not supply correct documentation but insists that he/she enters area, the following actions are to be taken:

- On site HSS or HSST will shut down activities, secure area by monitoring with instrumentation, and contact HSO/HSS or Site Manager.

7.2 DESIGNATION OF WORK ZONES

Moving personnel and equipment between work zones and onsite and offsite will be limited to controlled access points. Therefore, contamination will be contained within certain relatively small areas on the sites, and the potential for translocation will be minimized. The following three contiguous zones will be used where ~~heavy equipment or~~ significant contamination potential exists:

- Zone 1: Exclusion Zone;
- Zone 2: Contamination Reduction Zone; and
- Zone 3: Support Zone.

It is anticipated that these zones will not be required for all activities. The HSS may authorize the use of single or no zones depending on activities. In making this decision, the following criteria will be reviewed: the hazards present; area's current use, postings, and location; and whether the activities will introduce or increase hazards.

For work areas where the potential exists for exposure to radiation and/or radioactive contamination, a radiologically controlled area will be established at the Contamination Reduction Zone/Support Zone boundary. The Contamination Reduction Zone also will serve

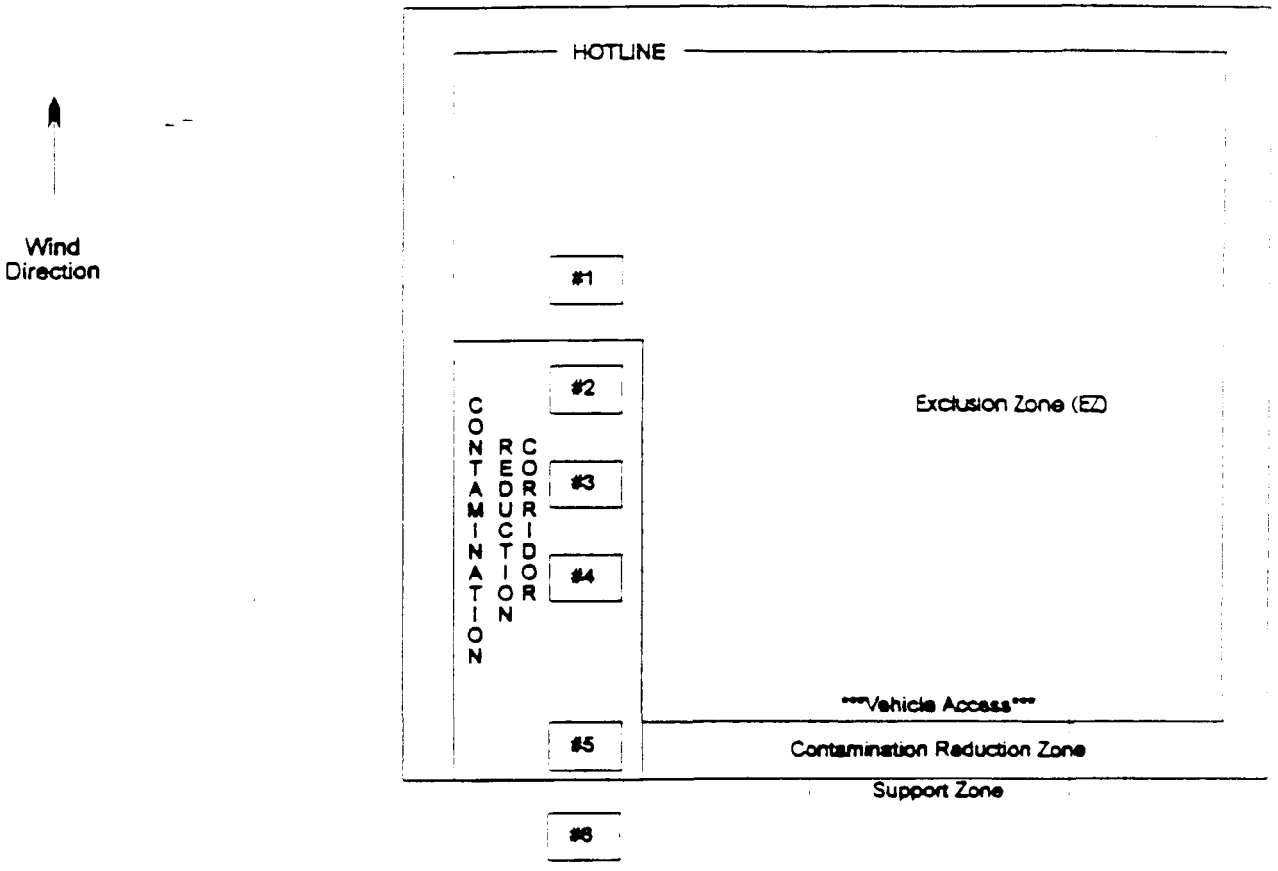
as a radiological buffer area if airborne radioactivity or radiation contamination areas are established in the Exclusion Zone. Radiological areas inside the Exclusion Zone will be established and posted as specified in EMRG 1.3, Posting of Radiation Protection Requirements.

7.2.1 Exclusion Zone

~~Figure 7-1 provides a graphical representation of each zone and each zone's physical relationship to each other.~~

The Exclusion Zone (Zone 1) is the innermost of three concentric areas and is the zone where contamination is known to or could occur. All personnel entering the Exclusion Zone will wear the prescribed level of protection for the specific site. An entry and exit checkpoint will be established at the perimeter of the Exclusion Zone to regulate the flow of personnel and equipment into and out of the zone and to verify that established entry and exit procedures are followed. All personnel, equipment, and materials exiting the Exclusion Zone will be considered contaminated and will be required to undergo chemical contaminant decontamination procedures before exiting. Materials from potentially radioactive contaminated areas must be monitored and released in accordance with EMRG 3.1, Performance of Surface Contamination Surveys; EMRG 3.2, Survey Requirements for Conditional and Unrestricted Use; and HSP 18.10, Release of Property for Conditional and Unrestricted Use (see Section 9.4).

The outer boundary of the Exclusion Zone is the Hotline. It will be established by visually surveying the immediate area and determining where the hazardous substances are located; where any drainage, leachate, or spilled material is found; and whether any discolorations are visible. Additional factors that will be considered include the distances needed to prevent fire or an explosion from affecting personnel outside the zone, the physical area necessary to conduct site operations, and the potential for contaminants to be blown from the area. When the Hotline is determined, it will be well marked. During subsequent site operations, the boundary may be



Note: Field modifications of decontamination layout are typically based on wind direction, access to the site, and placement of the equipment.

#1. Equipment Drop
#2. Gross Decontamination
#3. Wash and Rinse Gloves and Boots
#4. Remove and Dispose of Gloves and Coveralls
#5. Wash Hands and Face with Soap and Water
#6. Monitor for radioactive contamination (if applicable)

FIGURE 7-1
TYPICAL SITE CONTROL LAYOUT

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8.0 PERSONAL PROTECTIVE EQUIPMENT

PPE is specified to provide employees with protection against inadvertent contact with chemical contaminants. Although this additional protection is a precaution, it is emphasized that PPE is not issued as a replacement for engineered or administrative controls. Adherence to these controls is vital to keeping the rate of exposures as low as possible.

PPE has been selected for work on specific IHSSs taking into account the chemical and radiological hazards unique to each site. In doing so, the type of work activities are also considered.

This section addresses the makeup of the base levels of protection for invasive and noninvasive tasks, limitations of each, and the rationale to be used in downgrading PPE levels.

8.1 Levels of Protection

The level of PPE required for activities covered by this HSP will be continually reevaluated as fieldwork progresses. It is expected that there will be variations in requirements to meet workers needs at specific IHSSs.

The HSS/HSO will (1) authorize modifications, (2) post PPE requirements in the crew trailer, and (3) announce changes and justification for those changes at a site safety meeting. The HSST will receive a copy of the PPE requirements. A change will be published to this plan if PPE changes are permanent and if the HSS/HSO considers the changes significant.

8.1.1 Base Levels of Protection

For activities to be conducted under this plan, personnel will wear Level D as defined in Section 8.1.3.

~~Noninvasive Work Activities. Activities considered to be noninvasive under this plan include surface radiation surveys, tank/pipeline inspection, and surface geophysics as well as related support activities. Personnel involved with these activities will wear Level D work clothing as defined in Section 8.1.3. The limitations provided by that section will apply.~~

~~Invasive Work Activities. Activities considered to be invasive under this plan are those that require disturbance or moving of potentially contaminated soils. These activities are composed of concrete sampling, asphalt sampling, soil gas sampling, surface soil sampling, and vertical soil profile sampling. The base level of protection on all sites for these activities will be Level D Modified, as defined in Section 8.1.3, using chemical protective boots, uncoated Tyvek coveralls, and 11 mil thickness nitrile gloves. This ensemble will be used to protect against particulates generated during work activities. (Viton gloves will be used during PCB sampling.) Surface water/sediment sampling will require the upgraded chemical protective clothing and splash protection outlined in Appendix A.~~

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Protective clothing will be upgraded in the event that (1) free liquids or surface liquids are encountered, (2) gases or vapors are detected in excess of Level C action limits, or (3) unexpected hazards requiring increased skin protection are encountered. Upgraded clothing may consist of Tyvek, polycoated Tyvek or Saranex-coated Tyvek. Information to be used for upgrading chemical protective clothing is available in Appendix A under the PPE heading. Information provided under that heading represents upgraded requirements, not base requirements.

8.1.2 Level C

The following equipment will comprise Level C protection:

- full-face, air-purifying, cartridge-equipped respirator (Mine Safety and Health Administration [MSHA]/NIOSH approved) with organic vapor/High-Efficiency Particulate Air (HEPA) cartridges unless otherwise designated in Appendix A.

- chemical-resistant clothing (polyethylene-coated Tyvek or Saranex coveralls);
- chemical-resistant outer gloves;
- latex inner gloves;
- boots, chemical-resistant, steel toe and shank;
- booties (outer), chemical-resistant, disposable;
- hard hat (if needed);
- hearing protection (as required); and
- two-way radio communications (intrinsically safe).

Meeting all of the following criteria permits the use of Level C protection:

- Measured air concentrations of identified substances are reduced by the respirator to at or below the substance's PEL, and the concentrations are within the service limit of the chemical cartridges.
- Atmospheric contaminant concentrations do not exceed IDLH levels.
- Atmospheric contaminants, liquid splashes, or other direct contact does not adversely affect the small area of skin left unprotected by chemical-resistant clothing.
- Job functions are determined not to require self-contained breathing apparatus.
- Air quality is continuously monitored.

The main selection criterion for Level C is that conditions permit wearing air-purifying devices. The air-purifying device must be on a full-face mask (MSHA/NIOSH approved) equipped with cartridges specified in Appendix A.

In addition, use of a full-face air-purifying mask is approved only if the following occur:

- Substances are identified and their concentrations measured.
- Substances have adequate warning properties and adsorption properties.
- Individuals pass a qualitative fit test for the mask.
- Appropriate cartridge is used, and its service limit concentration is not exceeded.

It is particularly important that the air be monitored effectively when personnel are wearing air-purifying respirators (Level C). Continual surveillance using direct-reading instruments is needed to detect changes in air quality necessitating a higher or lower level of respiratory protection.

8.1.3 Level D

The following equipment will be considered Level D protection:

- coveralls or work clothes;
- boots (steel toe and shank chemical-resistant);
- work gloves (optional);
- safety glasses with side shields or chemical splash goggles;
- hard hat (when appropriate);
- air-purifying respirators (available for use);
- hearing protection (when appropriate);
- two-way radio communications if line of sight is not maintained (intrinsically safe);
- dosimeter badge; and
- nitrile gloves if hand contact with potentially contaminated materials is likely.

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9.0 DECONTAMINATION PROCEDURES

This section describes the procedures for decontaminating personnel and equipment. In addition, requirements for clearance of the equipment for use are also described.

9.1 PERSONNEL DECONTAMINATION

Decontamination procedures will be followed by all personnel exiting the Exclusion Zone at areas where an Exclusion Zone is necessary. Under no circumstances (except emergency evacuation) will personnel be allowed to leave the site before decontamination. The HSS/HSO may simplify the procedures in the field if minimal contamination has occurred to specific protective equipment.

9.1.1 Chemical Contamination

Personnel decontamination for chemical contamination consists of these steps:

- Personnel drop off equipment to be decontaminated.
- Perform gross decontamination (i.e., removal of large contamination deposits from outer clothing by gently brushing or washing).
- Wash and rinse gloves and boots with nonphosphate detergent and water.
- Remove and dispose of outer gloves and coveralls.
- Remove respirator (for Level C) and clean.
- Remove and dispose of inner gloves.
- Wash hands and face with soap and water.

9.1.2 Radioactive Contamination

Personnel with identified radioactive contamination that cannot be readily removed in the field will be transported to the designated RFP Occupational Health facility (Building 122) for decontamination. Decontamination will be performed in accordance with EG&G EMRG 2.3, Wounds and Skin Contamination, in consultation with the EG&G Environmental Management Radiological Engineer.

9.2 HEAVY EQUIPMENT

Heavy equipment decontamination will be performed at the designated RFP decontamination pad. Level C is required for decontaminating heavy equipment such as field vehicles, augers, and drill rigs. Personnel Level C decontamination will be accomplished as described in RFP EMD Operating Procedures Manual Volume I, Field Operations, FO.12, Decontamination Facility Operations, Revision No. 2, and FO.04, Heavy Equipment Decontamination.

9.3 SMALL EQUIPMENT

Small equipment will be protected from contamination by draping, masking, or otherwise covering as much of the instruments as possible with plastic, without hindering the operation of the unit.

Contaminated equipment will be taken from the drop area and the protective coverings removed and disposed of in the appropriate containers. Any dirt or obvious contamination will be brushed or wiped with a disposable paper wipe. The units can then be taken inside in a clean plastic tub, wiped with damp disposable wipes, and dried. The units will be checked, field calibrated, and recharged, if necessary, for the next day's operation. Decontamination will be performed in accordance with FO.03, General Equipment Decontamination.

10.0 EMERGENCY RESPONSE PLAN

This section describes the procedures to be followed in the event of an emergency.

10.1 SITE EMERGENCIES

In the event of an injury, accident, or other emergency, all personnel are responsible for following the provisions of the HSP. When personnel are working in the field, they will have a copy of this HSP with them. Emergency contact numbers will be conspicuously posted onsite to allow easy access for all personnel. Emergency telephone numbers are listed in Table 10-1 and Table 10-2. The HSS/HSO, with assistance from the Site Manager, has responsibility and authority for coordinating all emergency response activities until proper authorities arrive.

10.2 EMERGENCY PROCEDURES

The following standard emergency procedures will be used by onsite personnel.

10.2.1 Call for Emergency Response

For onsite emergency response, use the EG&G handheld radio (which will be provided to all field crews), and dial 2911. The radio transmission will automatically contact the RFP security force fire department, ambulance, occupational health department, radiological engineering department, and the contractor's yard supervisor.

To contact the pagers, dial the pager number. After the tone, enter your telephone number, then a star and your extension (if appropriate), then another star and a priority number.

Table 10-1
Emergency Telephone Numbers - Fieldwork

Department/Individual	Telephone #
Fire	(303) 966-2911
Ambulance	(303) 966-2911
Poison Center	(303) 629-1123
Security	(303) 966-2911
Police	(303) 966-2911
Occupational Health General Information	(303) 966-2594
YOU ARE LOCATED AT: T891M (Jacobs Engineering Trailer)	
NEAREST TELEPHONE IS AT: PACs1 Guard Post	
NEAREST EMERGENCY MEDICAL SERVICES ARE LOCATED AT: Building 122	
Health and Safety Coordinator - Lisa Nelowet	(303) 595-8855
Program Manager - John Freshwater	(303) 595-8855
Project Manager - Farrel Hobbs	(303) 595-8855
Jacobs Engineering HSS/HSO - David Spruce	(303) 966-5874
EG&G CTR - Bruce Peterman	(303) 966-8659
EG&G Asst. CTR - Gregg Anderson	(303) 966-5874
EG&G ERHSO - Keith Anderson	(303) 966-6979
Jacobs Engineering Site Manager - George Jansen	(303) 966-5874
EG&G 24-Hour Installation Emergency Response	(303) 966-2911
EG&G Operations Manager Representative - Roger Wisehart	(303) 966-7604

Table 10-2
Pager Numbers

Position	Individual	Pager Number
CTR	Bruce Peterman	966-4000 #5134
Asst. CTR	Greg Anderson	966-4000
HSS/HSO	David Spruce	966-5874
Field Team Leaders	Kathy Rogers/Mike Johnson	966-5874
Project Manager	Farrel Hobbs	595-8855
Asst. Project Manager	Joyce Miyagishima	595-8855
Ops Mgr Representative	Roger Wisehart	966-7604

Priority numbers are as follows:

- 1 - Call within 10 minutes.
- 2 - Call within an hour.
- 3 - Call today.
- 4 - Call this week.
- 9999 - Emergency - call immediately. (Do not abuse this number, please.)

If a radio is not available, use a mobile telephone (one in each Jacobs field vehicle). Dial (303) 966-2911, which is the RFP emergency telephone number. All of the services (fire, police, ambulance) are available at this number.

Emergency telephones are available at all guard posts.

DO NOT CALL EMERGENCY RESPONDERS WHO ARE NOT ONSITE. THEY WILL NOT BE ALLOWED TO ENTER THE PLANT.

10.2.2 Evacuations

In case of an emergency, such as fire, explosion, or significant release of a hazardous substance, an air horn or vehicle horn will sound three times with five-second intervals between blasts. All personnel in the Exclusion Zone and the Contamination Reduction Zone will evacuate and assemble within the Support Zone before exiting the site in an upwind direction. When the safety of all personnel has been established, calls for emergency response will be made.

10.2.3 First Aid

First aid will be provided by Jacobs' personnel for minor injuries not requiring the services of a physician. The following general approaches to first aid will be taken.

10.2.3.1 Physical Injury

Minor injuries may be treated onsite, but all injuries will be examined by trained medical personnel. In the case of serious injuries, the victim will be transported to the RFP medical center as soon as possible. Victims of serious bites or stings will be taken to the RFP medical center.

10.2.3.2 Injury As a Result of Heat

Refer to Section 5.0, Physical Hazards, for first aid instructions to treat heat-related injuries.

10.2.3.3 Injury As a Result of Cold

Refer to Section 5.0, Physical Hazards, for first aid instructions to treat cold-related injuries.

- Two long blasts indicate all is clear.

The following visual hand signals will be used:

- clutching throat: personal distress; and

- arm waving in a circle over the head: if given in the Exclusion Zone, need assistance; if given in the Support Zone, evacuate.

10.2.7 Emergency Equipment

The following emergency equipment will be available at each site:

- first-aid kit (10 unit);
- eye-wash station;
- air horn;
- Gatorade or equivalent;
- fire extinguisher (10-pound A:B:C);
- an extra full set of the appropriate PPE for each team member;
- long-handled shovel; and
- two-way radio (provided by EG&G).

10.3 NOTIFICATION

Reporting and notification of emergency situations will be carried out in accordance with requirements in DOE Order 5484.1.

10.3.1 Reporting

Field personnel will notify appropriate emergency assistance personnel (for example, fire, police, ambulance) at extension 2911 immediately and then notify the Site Manager. The Site Manager will notify the HSS/HSO, EG&G CTR, Project Manager, and Health and Safety Coordinator. The Operations Manager Representative as listed in Tables 10-1 and 10-2 must be notified of any unplanned releases.

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A complete notification procedure is provided in Appendix C (Jacobs' SOP 9.1, Accident Investigation and Notification).

An immediate verbal report must be given to the Corporate Health and Safety Officer within 24 hours of each incident involving medical treatment. The following information will be provided:

- the exact location of the incident;
- name and employer of victim(s);
- nature and extent of injuries; and
- whether victim(s) was transported offsite for medical treatment.

10.3.2 Primary Contacts

Reporting procedures include notifying the following primary contacts:

- Corporate Environmental Health and Safety Department
  Jacobs Engineering Group Inc.
  600 Seventeenth Street, Suite 1100N
  Denver, Colorado 80202
  Attention: Terry Briggs
  Office Telephone: (303) 595-8855
  FAX Machine: (303) 595-8857

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- Denver Health and Safety Coordinator
  Jacobs Engineering Group Inc.
  600 Seventeenth Street, Suite 1100N
  Denver, Colorado 80202
  Attention: Lisa Nelowet
  Office Telephone: (303) 595-8855
  FAX Machine: (303) 595-8857

- Pasadena Risk Management (Safety) Department
  Jacobs Engineering Group Inc.
  251 South Lake Avenue
  Pasadena, California 91101
  Attention: Pat Costamagna
  Office Telephone: (818) 578-6886
  FAX Machine: (818) 578-6837

- Western Region Safety Department
  Jacobs Engineering Group Inc.
  251 South Lake Avenue
  Pasadena, California 91101
  Attention: Ken Wilkenson
  Office Telephone: (818) 449-2171
  FAX Machine: (818) 578-6827

10.3.3 Procedure: Reporting at Medical Facility

An Authorization for Medical Treatment form (Appendix C) must accompany an injured worker to the medical facility. The top portion of the form is to be completed by job site personnel. A Worker's Compensation form may also be required.

10.3.4 Procedure: Postaccident

After the employee has received treatment, the Health and Safety Coordinator will arrange for a postaccident drug screen for all injured employees immediately following an accident. A hepatitis B vaccine may need to be offered to employees who were exposed to blood during response to an incident.

An initial accident investigation will begin at the discretion of the HSS/HSO and/or the Site Manager. At a minimum, the scene will be secured (no movement of material or equipment will be made until a review of the accident is completed), and signed statements from witnesses will be maintained.

10.4 RECORD KEEPING

10.4.1 Site Manager's Investigation Report

A Site Manager's Investigation Report (see Appendix C) will be completed by the first line Site Manager as soon as possible following the incident. The completed form will be returned to Jacobs' Regional Safety Department. A copy must also be sent to the Corporate Health and Safety Officer and the Health and Safety Coordinator.

10.4.2 Witness Statement

A Witness Statement (see Appendix C) will be used to obtain a signed statement from witnesses of their complete (factual) observations. Names and permanent addresses will be secured for future reference. The form will be returned to Jacobs' Regional Safety Department. A copy must also be sent to the Corporate Health and Safety Officer and the Health and Safety Coordinator.